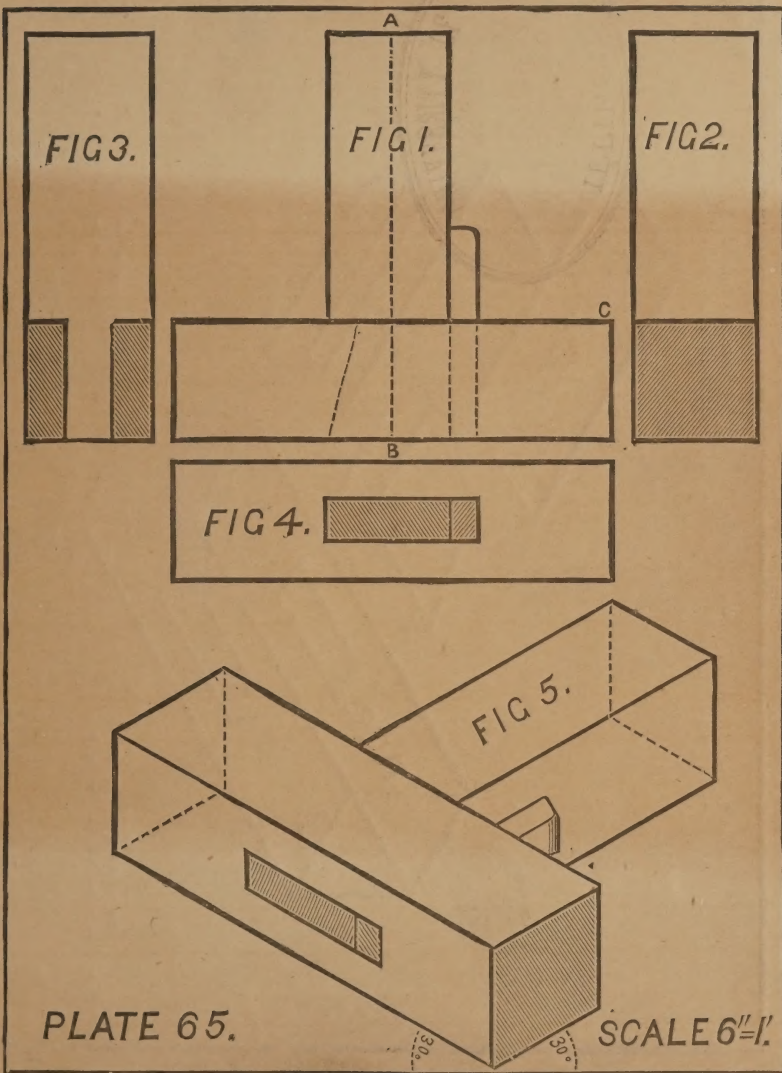


# KEYED MORTISE AND TENON JOINT

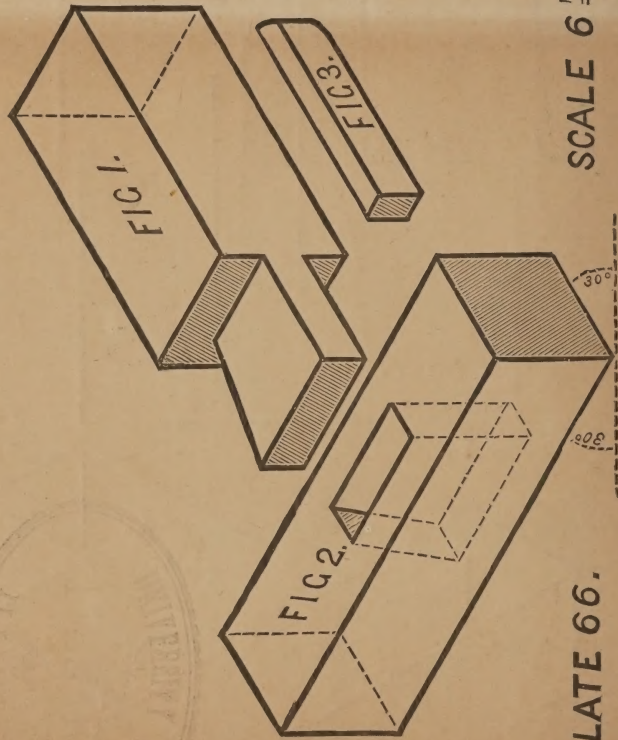
True up a piece of wood to  $8\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$  and cut into two— $4\frac{1}{2}$  and  $4\frac{1}{4}$  respectively. At end of latter set out tenon and cut away the waste. At centre of longer piece gauge space for mortise and key, and cut out with chisel.



Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board

Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board

PROJECTION OF KEYED MORTISE AND TENON JOINT



Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board

Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board

# BRIDLE JOINT

Plane up a piece of wood to  $8 \times 1\frac{1}{4} \times 1\frac{1}{4}$  and cut into two— $4\frac{1}{2}$  and  $3\frac{1}{2}$  respectively. Mark out the end of shorter piece as in fig. 1, Plate 68. Mark centre of longer piece as in Plate 68, fig. 2. Cut away the wood with saw and chisel, leaving the bridle A to fit the groove B.

FIG 3.

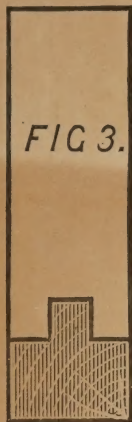


FIG 1.

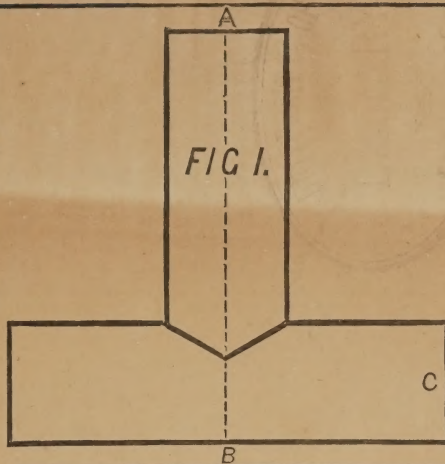


FIG 2.

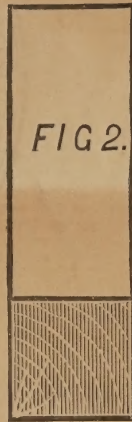


FIG 4.

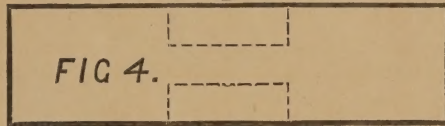


FIG 5.

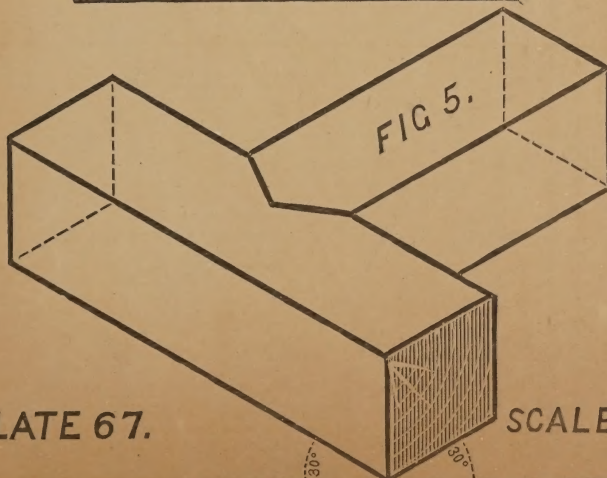


PLATE 67.

SCALE 6"=1'

# PROJECTION OF BRIDLE JOINT

Plane up a piece of wood to  $8 \times 1\frac{1}{4} \times 1\frac{1}{4}$  and cut into two— $4\frac{1}{2}$  and  $3\frac{1}{2}$  respectively. Mark out the end of shorter piece as in fig. 1. Mark centre of longer piece as in fig. 2. Cut away the wood with saw and chisel, leaving the bridle A to fit the groove B.

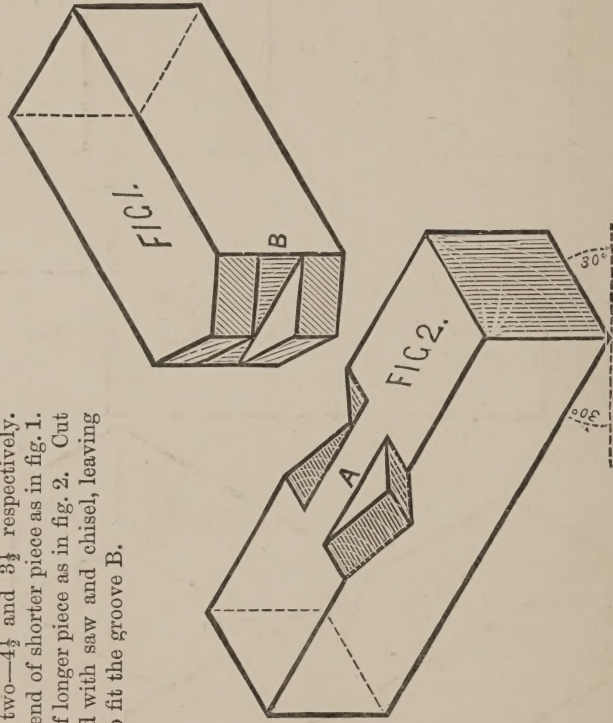


PLATE 68.

SCALE 6"=1'.



# FOX-TAIL WEDGED JOINT

True up a piece of wood to  $8\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$  and cut into two— $4\frac{1}{2}$  and 4 respectively. At end of shorter gauge and cut tenon; make two saw cuts down it and drive in small wedges, as shown in Plate 70, fig. 1. Gauge the centre of the longer piece for a mortise, as indicated in Plate 70, fig. 2, and cut out with chisel. Drive the two parts of the joint together.

FIG 3.

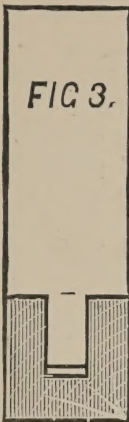


FIG 1.

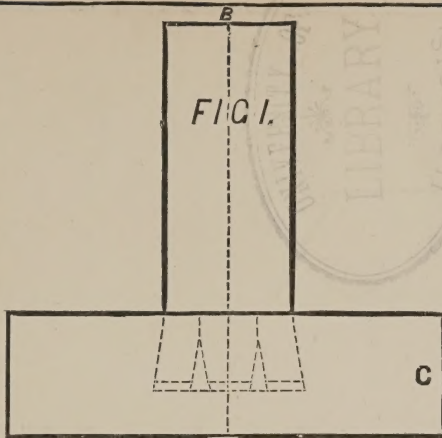


FIG 2.

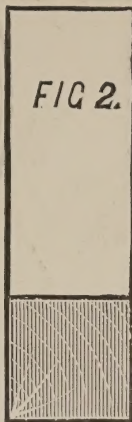


FIG 4

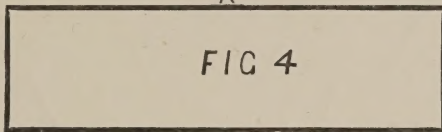


FIG 5.

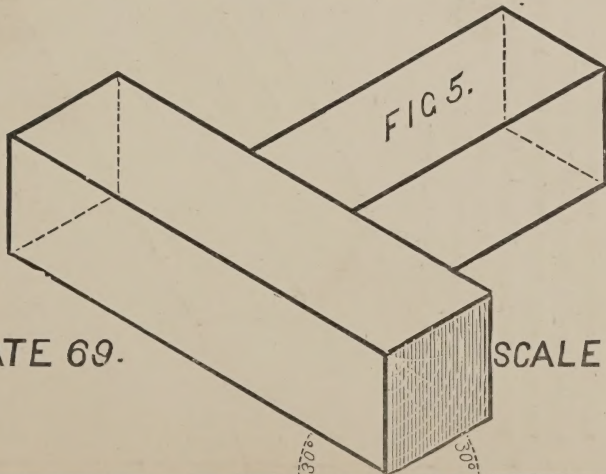


PLATE 69.

SCALE 6"=1'

Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board

Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board

# PROJECTION OF FOX-TAIL WEDGED JOINT

True up a piece of wood to  $8\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$  and cut into two— $4\frac{1}{2}$  and 4 respectively. At end of shorter gauge and cut tenon; make two saw cuts down it and drive in small wedges, as shown in fig. 1. Gauge the centre of the longer piece for a mortise as indicated in fig. 2, and cut out with chisel. Drive the two parts of the joint together.

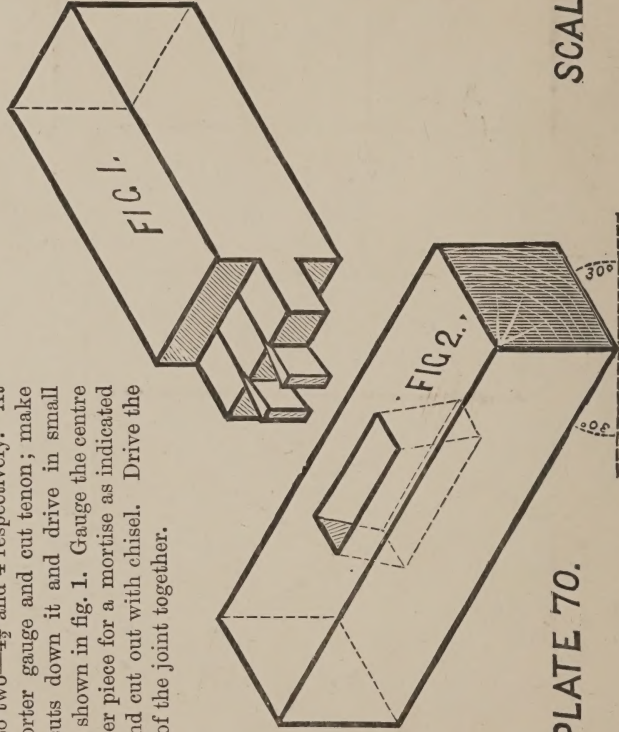
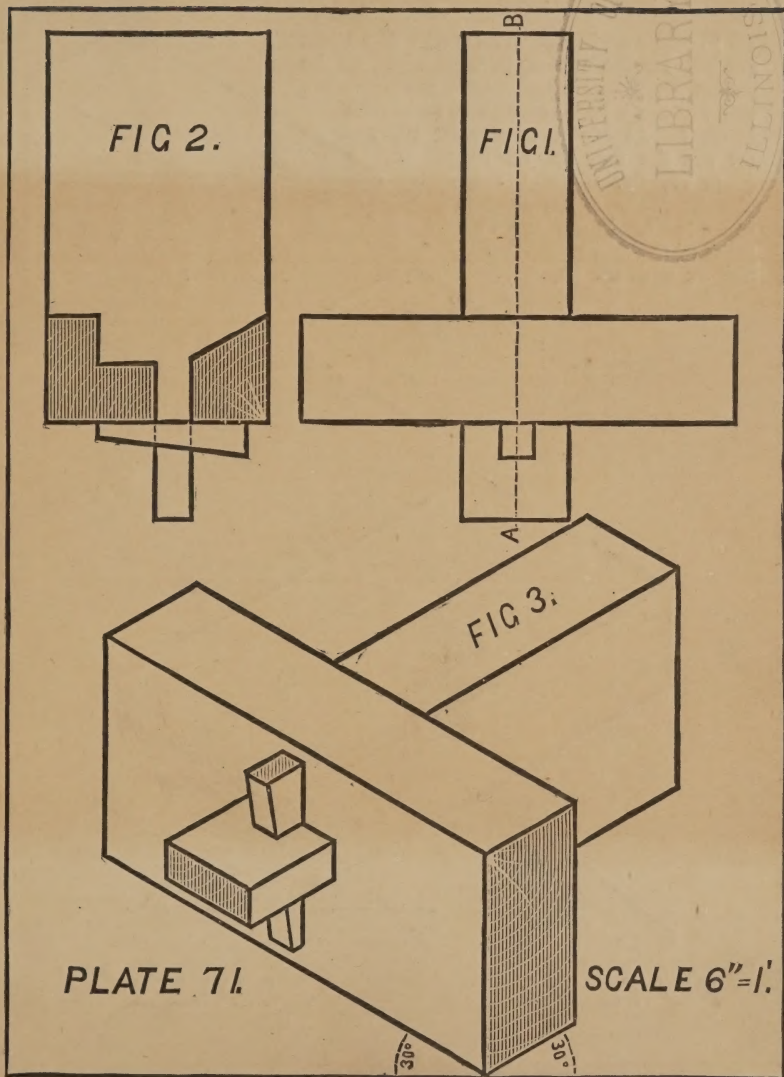


PLATE 70.

SCALE 6"=1

# TUSK TENON JOINT



Plane up a piece of wood to  $9\frac{1}{2} \times 2\frac{1}{4} \times 1$  and cut into two—5 and 4 $\frac{1}{2}$  respectively. At the end of the longer mark out and cut a tenon, and mortise a hole through it as shown in Plate 72, fig. 1. At centre of smaller piece set out the mortise as shown in fig. 2. Cut out with chisel. Make a key as shown. Drive the two parts of the joint together and fix with the key.

### PROJECTION OF PARTS OF TUSK TENON JOINT

Plane up a piece of wood to  $9\frac{1}{2} \times 2\frac{1}{4} \times 1$  and cut into two—5 and  $4\frac{1}{2}$  respectively. At the end of the longer mark out and cut a tenon and mortise a hole through it, as shown in fig. 1. At centre of smaller piece set out the mortise, as shown in Plate 71, fig. 2. Cut out with chisel. Make a key as shown in Plate 71. Drive the two parts of the joint together and fix with the key.

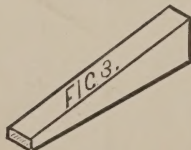
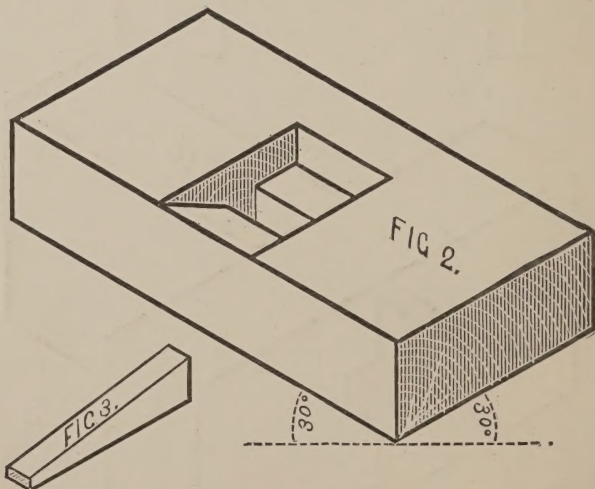
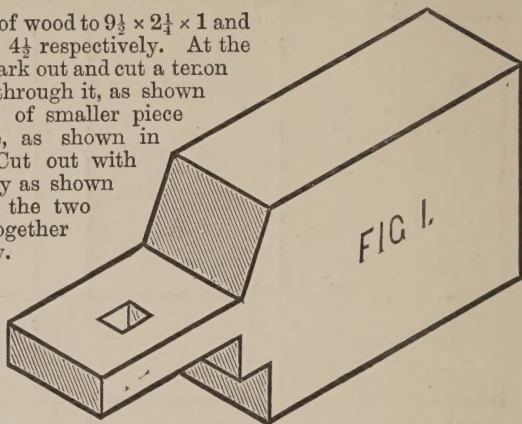


PLATE 72.

SCALE 6"=1'

*Arranged by E. R. Kidson, F.G.S., Science Demonstrator,  
under Nottingham School Board*

*Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board*



PLOUGHING AND REBATING

True up a piece of wood to  $7\frac{1}{2} \times 8\frac{3}{4} \times 1\frac{1}{4}$ .  
Plough and rebate as shown in sketch.

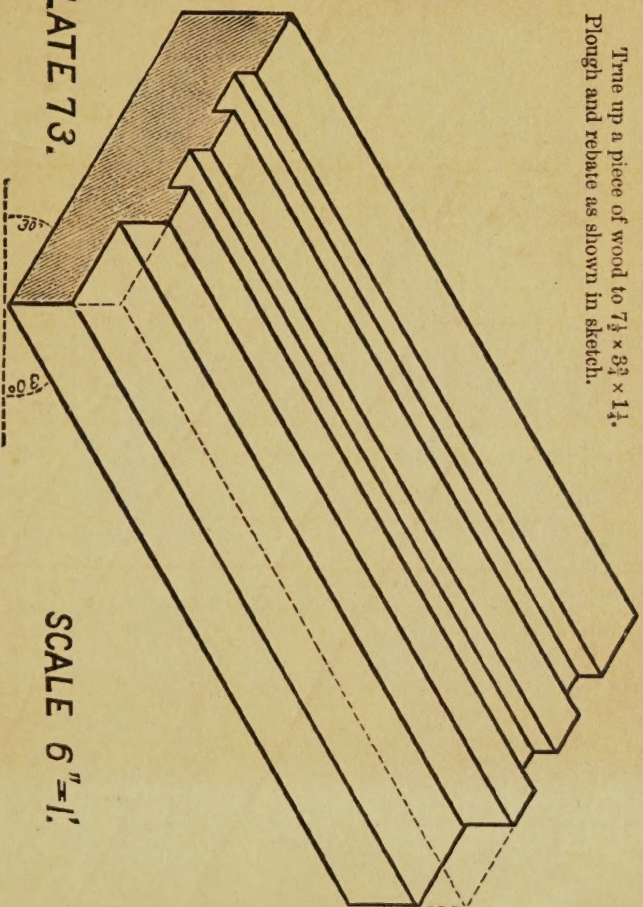


PLATE 73.

SCALE 6"=1'

*Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board*

*Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board*

## REBATED JOINT

Plane up two pieces of wood to  $7\frac{1}{2} \times 1\frac{3}{4} \times 14$ . Rebate both as shown in sketch.

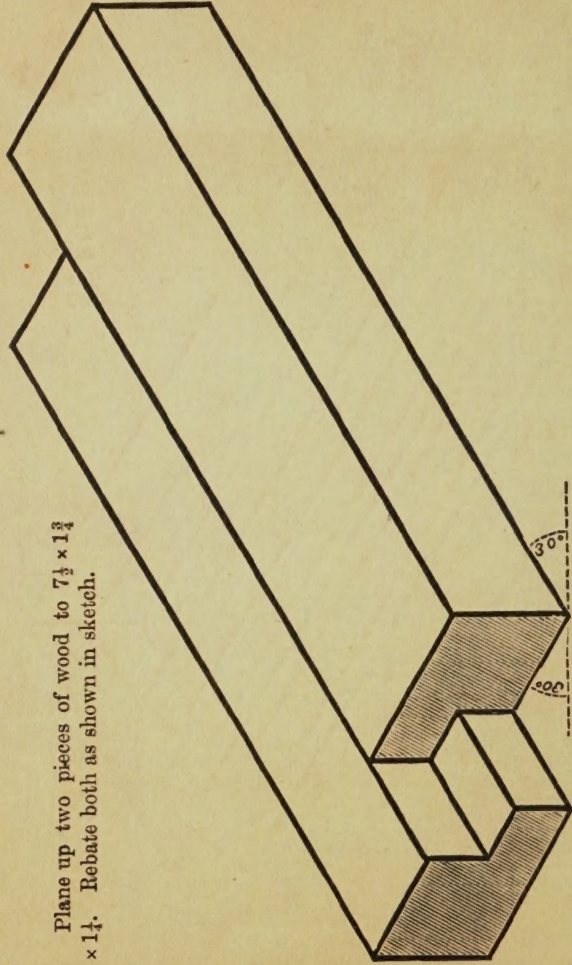


PLATE 74.

SCALE 6"=1'

# PROJECTION OF BOX

Turn up to  $\frac{1}{2}$ " thick two pieces of wood for top and bottom of box, two for sides, and two for ends. Groove the sides and one end to receive the lid; fix the sides and ends by housed and tongued joints and nail them together. Screw on the bottom. Rebate the lid.

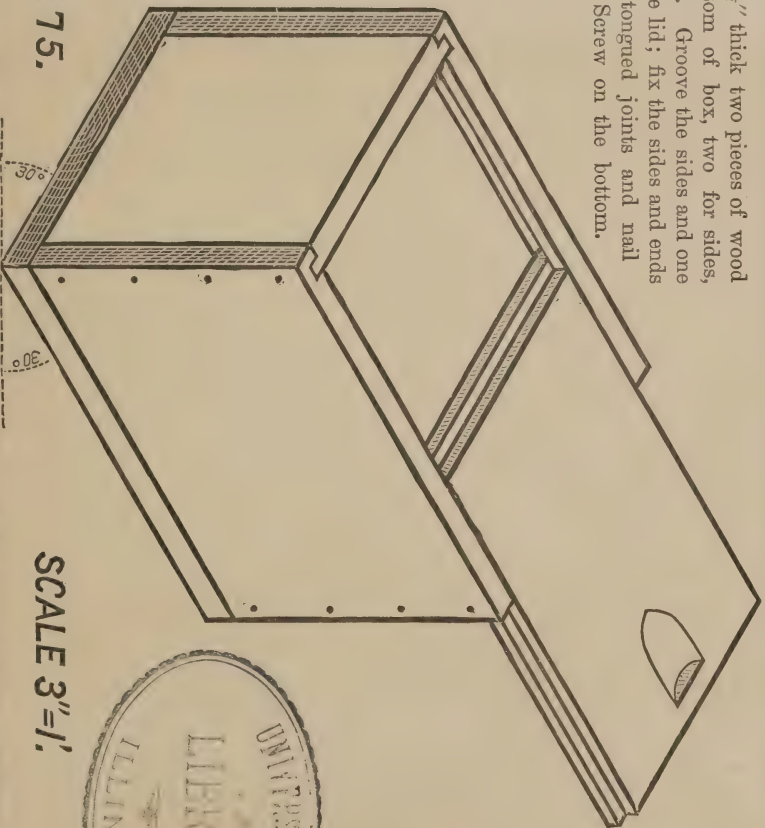


PLATE 75.

SCALE 3"=1'.

## SECTION OF BOX



SECTION  
ON LINE A B ON  
PLAN

PLATE 76.

SCALE 6"=1'

*Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board*

*Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board*



PLAN OF BOX

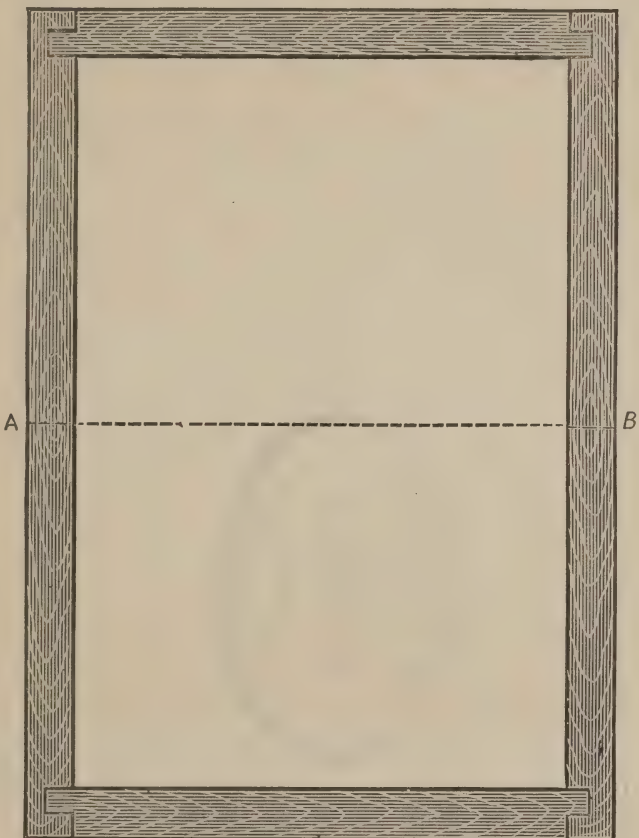
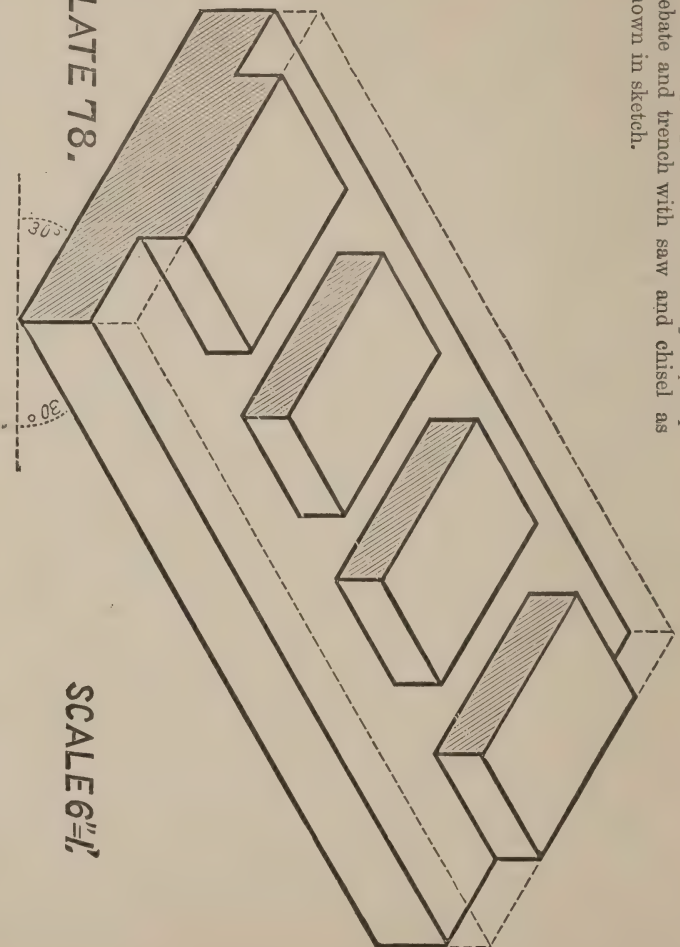


PLATE 77.

SCALE 6"=1'

## REBATING AND TRENCHING

Plane up a piece of wood to  $7\frac{1}{2} \times 3\frac{3}{4} \times 1\frac{1}{4}$ .  
Rebate and trench with saw and chisel as  
shown in sketch.

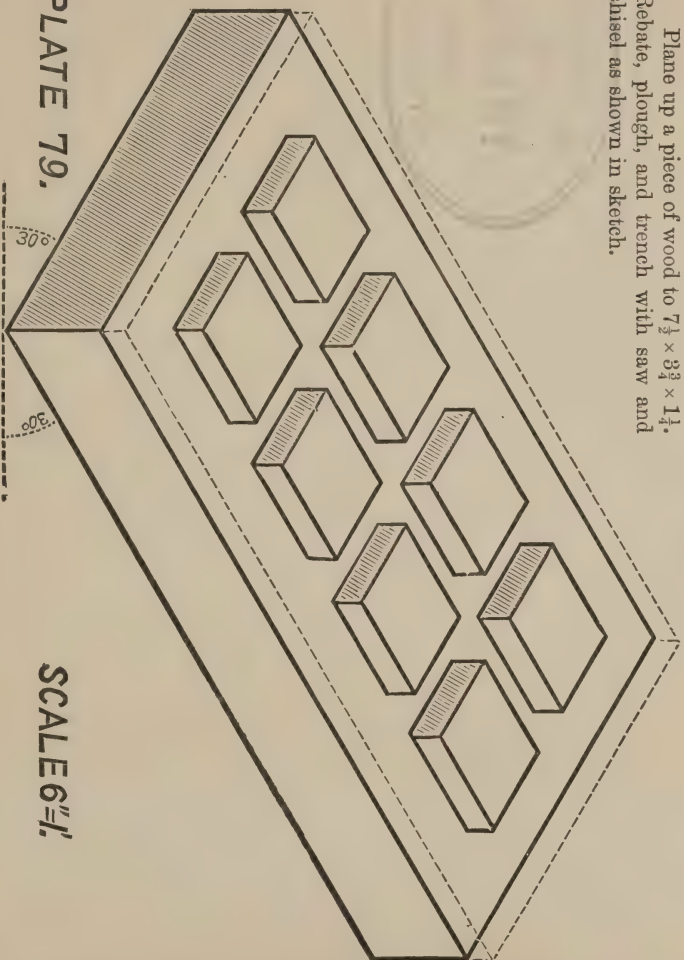


*Designed and drawn by H. Jagg, Technical Instructor  
under Nottingham School Board*

*Arranged by E. R. Kilson, F.G.S., Science Demonstrator  
under Nottingham School Board*

## REBATING AND TRENCHING

Plane up a piece of wood to  $7\frac{1}{2} \times 3\frac{3}{4} \times 1\frac{1}{4}$ .  
Rebate, plough, and trench with saw and  
chisel as shown in sketch.



*Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board*

*Arranged by E. R. Kilson, F.G.S., Science Demonstrator  
under Nottingham School Board*

## REBATING AND TRENCHING

True up a piece of wood to  $7\frac{1}{2} \times 8\frac{3}{4} \times 1\frac{1}{4}$ .  
Rebate it and trench with saw and chisel as  
shown in sketch.

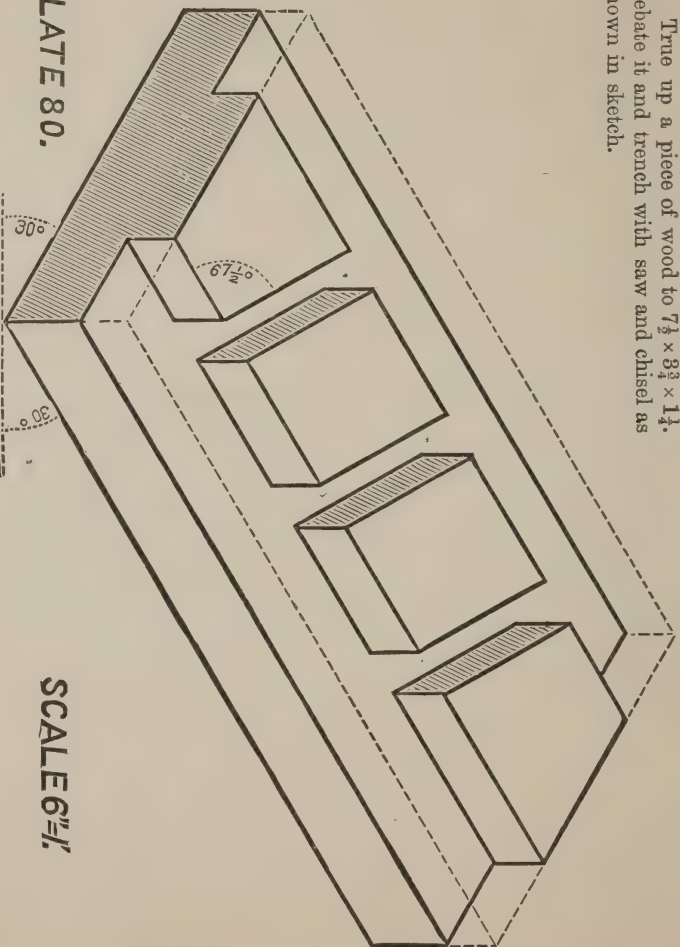


PLATE 80.

SCALE 6"=1'

*Designed and drawn by H. Jais, Technical Instructor  
under Nottingham School Board*

*Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board*



## GROOVE AND TONGUE JOINT

True up two pieces of wood to  $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$  and groove both  $\frac{3}{8}$ " wide and  $\frac{1}{2}$ " deep. Plane up another piece  $7\frac{1}{2} \times 1 \times \frac{3}{8}$  and drive it into the groove of one piece, bringing the other down over the loose tongue. The tongue may be fixed with glue.

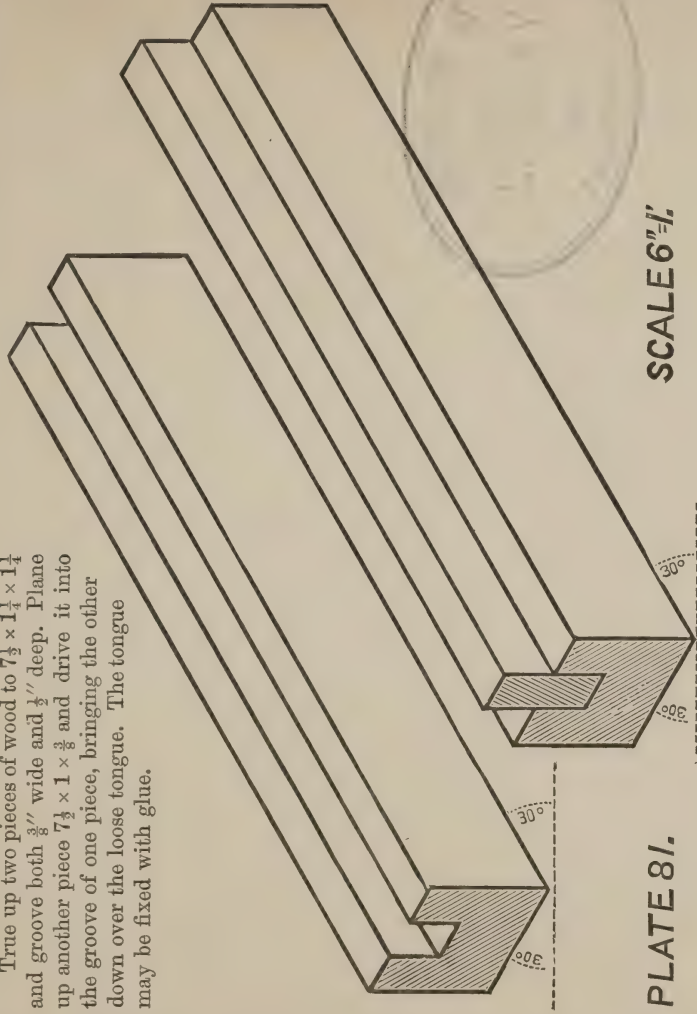


PLATE 81.

SCALE 6"=1"

# TWO-PANELLED DOOR

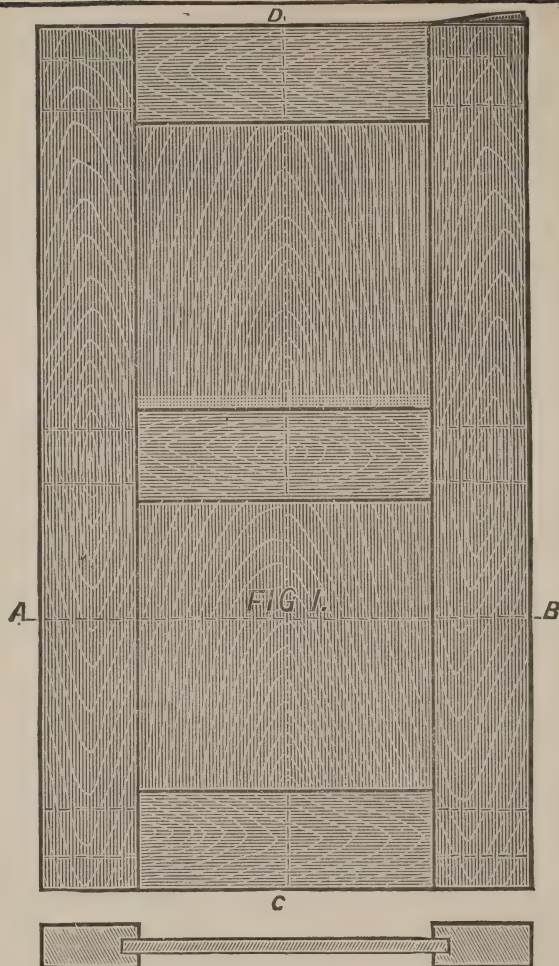


FIG 2 SECTION ON LINE A B



FIG 3. SECTION ON LINE C D.

True up the two panels to  $\frac{1}{4}$ " thick and  $\frac{3}{4}$ " longer and wider than appears on the sketch. Each style when finished must be  $1' 6'' \times 2'' \times \frac{1}{8}''$  and each rail  $10'' \times 2'' \times \frac{1}{8}''$ , this length including the tenons. Cut tenon at each end of each rail and mortise each end of each style as shown by dotted lines. Groove inside of both styles and top and bottom rails, and both sides of middle rail, so as to receive the panels. The finished door must be  $1' 6'' \times 10'' \times \frac{1}{8}''$ .

PLATE 82.

SCALE  $3''=1'$

Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board

Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board

# PROJECTION OF DOVETAILED BOX

True up two pieces of wood to  $8\frac{1}{2}'' \times 6'' \times \frac{1}{2}''$  for top and bottom; two pieces to  $8\frac{1}{2}'' \times 5\frac{1}{2}'' \times \frac{1}{2}''$  for front and back, and two pieces to  $5'' \times 5\frac{1}{2}'' \times \frac{1}{2}''$  for the ends. Dovetail the sides and ends together and screw on the bottom. Mark positions of hinges on lid and back; let them in flush and screw in their places.

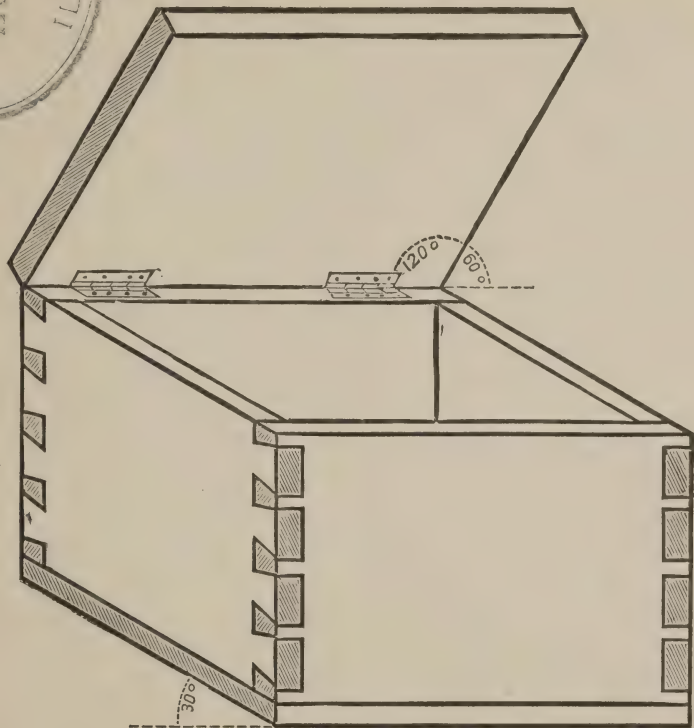


PLATE 83.

SCALE  $3''=1'$

Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board

Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board

PLAN OF DOVETAILED BOX

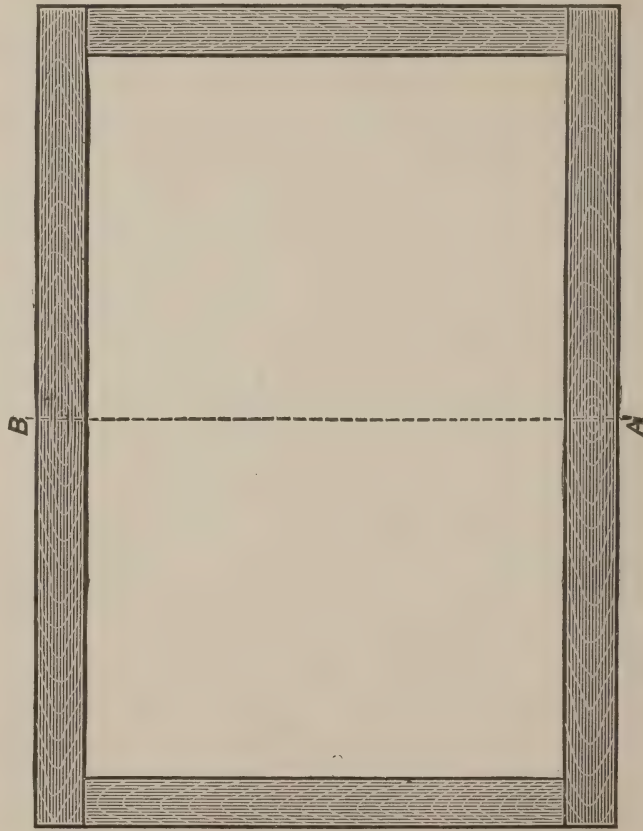


PLATE 84.

SCALE 6 $\frac{1}{2}$ "=1'

*Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board*

*Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board*



# SECTION OF DOVETAILED BOX

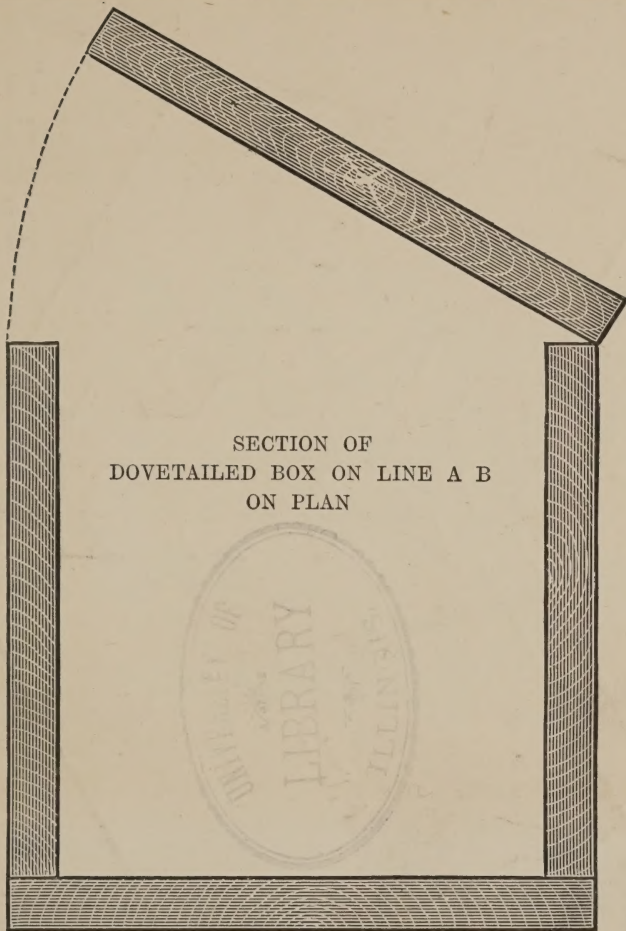


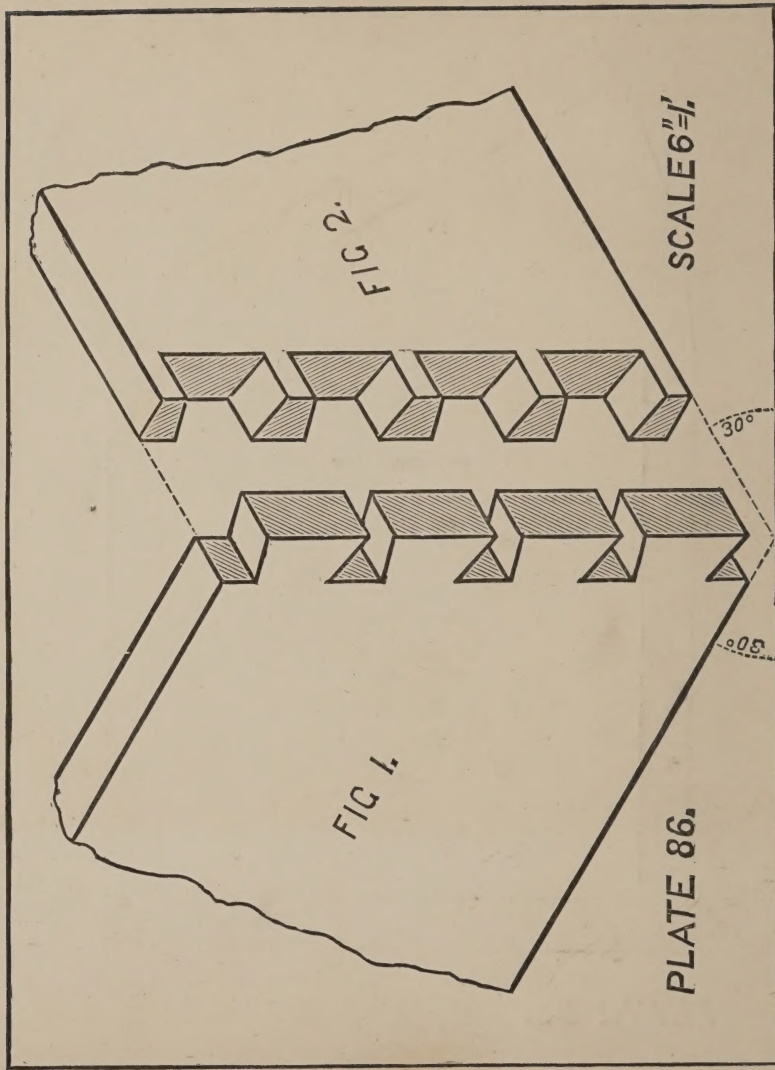
PLATE 85.

SCALE 6"=1'

Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board

Designed and drawn by H. Japp, Technical Instructor  
under Nottingham School Board

PROJECTION OF CORNER OF DOVETAILED BOX



*Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board*

*Arranged by E. R. Kidson, F.R.S., Science Demonstrator  
under Nottingham School Board*

# FOUR-PANELLED DOOR

True up the four panels to  $\frac{1}{4}$ " thick and  $\frac{3}{4}$ " longer and wider than appears on the sketch. Tenon each end of each rail and mortise the outside styles right through to receive them. Tenon each end of the middle styles and mortise the three rails at the middle part way to receive them. Groove inside of the long styles and top and bottom rails, and both sides of middle rail and short styles, so as to receive the four panels.

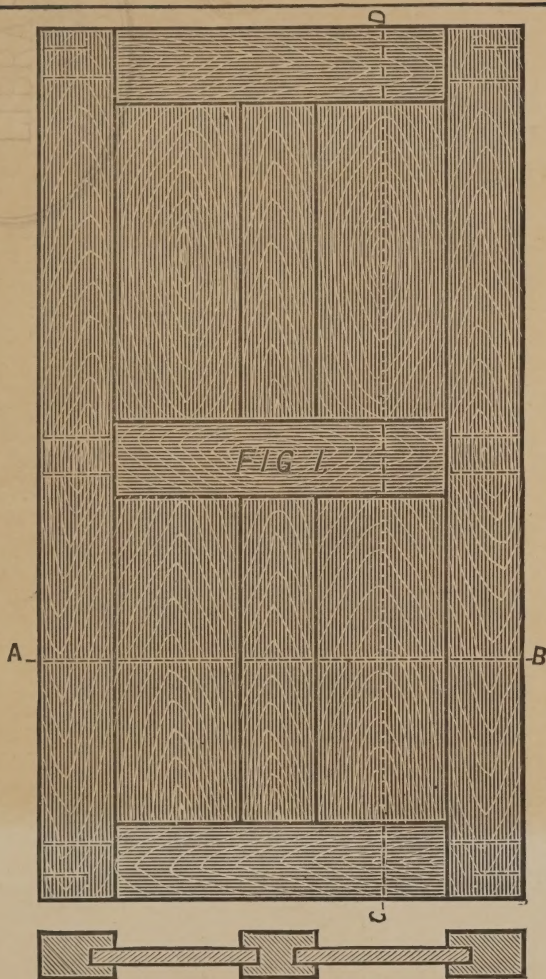


FIG 2. SECTION ON LINE A B

PLATE 87.

SCALE  $3"=1'$

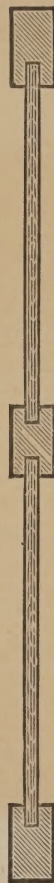


FIG 3. SECTION ON LINE C D

Designed and drawn by H. Jay, Technical Instructor  
under Nottingham School Board

Arranged by E. R. Kidson, F.G.S., Science Demonstrator  
under Nottingham School Board

